

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of producing a spacer ~~synthetic-resin rod~~ of an optical fiber, said method comprising:

an extruding step of extruding a polyethylene ~~synthetic-resin~~ rod;

a pre-cooling step of applying ~~spraying~~ a cooling medium on said rod to pre-cool said rod extruded down to a temperature ($T^{\circ}\text{C}$) satisfying the following condition:

$T \leq \{(a \text{ softening point of said } \underline{\text{polyethylene}} \text{ } \del{\text{synthetic-resin rod}}) + 5\} [^{\circ}\text{C}];$ and

a main cooling step of letting said rod thus pre-cooled pass through water to cool the rod.

2. (Currently Amended) The method according to Claim 1, wherein said rod extruded is cooled down in said pre-cooling step to a temperature ($T^{\circ}\text{C}$) satisfying the following condition:

$\{(\text{the softening point of said } \underline{\text{polyethylene}} \text{ } \del{\text{synthetic-resin}}) - 35\} \leq T \leq \{(\text{the softening point of said } \underline{\text{polyethylene}} \text{ } \del{\text{synthetic-resin}})\} [^{\circ}\text{C}].$

3. (Currently Amended) The method according to Claim 1, wherein said cooling medium is air and said air is applied ~~sent~~ to the periphery of said rod in said pre-cooling step.

Claims 4 and 5. (Cancelled)

6. (Original) The method according to Claim 1, wherein said cooling media are air and misty water droplets, and said pre-cooling step comprises:

a first pre-cooling step of sending said air to the periphery of said rod; and

a second pre-cooling step of spraying said misty water droplets on the periphery of said rod.

7. (Withdrawn) A method of producing a synthetic resin rod, comprising:
an extruding step of extruding a synthetic resin rod; and
a cooling step of letting said rod pass through a water tank to cool said rod while preventing leakage of water from a rod entrance, wherein said water tank comprises a water tank body, a first lid member provided with the rod entrance and attached to one end portion of said water tank body, and a second lid member provided with a rod exit and attached to another end portion of said water tank body, said water tank is filled with cooling water inside, and said rod entrance is equipped with a leak preventing device for preventing the leakage of water from said rod entrance.

8. (Withdrawn) The method according to Claim 7, wherein said leak preventing device comprises:

an outer cylinder having a diameter smaller than a diameter of said water tank body, having a water inlet in a cylindrical wall thereof, and arranged coaxially in said water tank body;

an inner cylinder being shorter than said outer cylinder, having a diameter smaller than the diameter of said outer cylinder, and arranged coaxially in said outer cylinder; and

a sealing member for sealing a portion outside said inner cylinder in said rod entrance,
wherein, while said rod is inserted in said inner cylinder, water introduced from said inlet to the space between said outer cylinder and said inner cylinder is forced to flow in a moving direction of said rod, thereby preventing the leakage of water from said rod entrance.

9. (New) A method of producing a spacer rod of an optical fiber, said method comprising:

an extruding step of extruding a polyethylene rod;

a pre-cooling step of spraying misty water droplets, which have a mean particle size in the range of 20 to 80 μm , in the periphery of said rod to pre-cool said rod extruded down to a temperature ($T^{\circ}\text{C}$) satisfying the following condition:

$T \leq \{(\text{a softening point of said polyethylene}) + 5\} [^{\circ}\text{C}]$; and

a main cooling step of letting said rod thus pre-cooled pass through water to cool the rod.

10. (New). The method according to claim 9, wherein in said pre-cooling step, air is applied to said rod together with said misty water droplets, and said pre-cooling step comprises:

a first pre-cooling step of sending said air to the periphery of said rod; and

a second pre-cooling step of spraying said misty water droplets on the periphery of said rod.